

Supplementary Table S1. Summary of HLA typing, mutations/neoantigens and prognosis in 80 HGSC patients

ID	HLA-A	HLA-B	HLA-C	No. of non-synonymous mutations <sup>a</sup>	No. of predicted neoAg <sup>b</sup>	PFS	rec. (1) or no rec. (0)	OS	dead (1) or alive (0)			
Se001	24:02	33:03	44:03	52:01	12:02	14:03	105	37	58.6	0	58.6	0
Se004	31:01	33:03	40:02	44:03	03:04	14:03	166	74	14.3	1	38.0	1
Se005	24:02	33:03	44:03	46:01	01:02	14:03	72	22	55.3	0	55.3	0
Se006	11:01	11:01	51:01	55:02	01:02	15:02	141	37	23.3	1	95.4	0
Se008	02:01	26:01	13:01	54:01	01:02	03:04	69	14	67.6	1	119.3	0
Se011	24:02	33:03	40:02	44:03	07:02	14:03	84	25	43.0	1	71.9	1
Se015	02:01	24:02	07:02	55:02	01:02	07:02	123	37	81.0	1	95.6	0
Se016	11:01	11:01	48:01	67:01	07:02	08:01	77	20	96.1	0	96.1	0
Se020	24:11	31:01	07:02	40:02	03:04	07:02	171	57	29.8	1	70.2	1
Se023	02:06	24:02	40:02	55:02	03:03	03:03	144	41	21.3	1	46.7	1
Se024	02:06	24:02	52:01	54:01	08:01	12:02	40	18	15.1	1	59.5	1
Se025	24:02	24:02	40:01	52:01	03:04	12:02	56	11	72.6	0	72.6	0
Se026	24:02	26:02	15:01	40:06	03:04	15:02	57	26	22.2	1	47.0	1
Se029	02:06	24:02	51:01	52:01	12:02	14:02	9	2	35.7	1	55.0	0
Se032	02:07	02:19	15:01	44:03	08:03	14:03	51	17	5.6	1	63.7	0
Se034	26:01	33:03	39:01	44:03	07:02	14:03	105	31	10.7	1	47.4	1
Se035	26:01	31:01	35:01	51:01	03:03	14:02	86	26	12.6	1	56.4	1
Se037	24:02	24:02	40:02	52:01	01:02	12:02	115	31	47.3	1	57.4	0
Se039	02:06	02:19	40:02	55:02	01:02	07:02	221	69	53.2	0	53.2	0
Se043	24:02	33:03	44:03	52:01	12:02	14:03	46	11	18.3	1	53.0	1
Se044	24:02	31:01	40:02	52:01	03:04	12:02	68	22	49.0	1	113.8	0
Se047	26:03	26:03	52:01	52:01	12:02	12:02	157	19	89.6	0	89.6	0
Se048	02:01	31:01	51:01	56:01	01:02	04:01	33	12	22.1	1	63.0	1
Se049	24:02	24:02	15:01	40:02	03:04	04:01	37	14	12.9	1	35.2	1
Se050	24:02	24:02	07:02	40:01	03:04	07:02	92	30	13.3	1	39.3	0
Se051	24:02	26:01	07:02	40:02	03:04	07:02	87	33	19.3	1	39.4	0
Se054	24:02	33:03	44:03	51:01	14:02	14:03	72	22	11.4	1	36.2	0
Se059	31:01	31:01	39:02	40:02	03:04	07:02	76	30	126.3	0	126.3	0
Se060	24:02	24:02	07:02	52:01	07:02	12:02	143	25	18.3	1	205.4	0
Se067	02:06	24:02	40:06	52:01	08:01	12:02	55	16	12.0	1	16.3	1
Se068	24:20	31:01	15:01	51:01	03:03	14:02	48	15	20.2	0	20.2	0
Se071	03:21	31:01	40:06	51:01	01:02	08:01	66	12	12.6	1	15.5	1
Se101	24:02	31:01	46:01	51:01	01:03	14:02	76	14	20.1	1	51.5	0
Se102	11:01	33:03	15:01	44:03	04:01	14:03	88	40	37.0	0	45.3	0
Se103	11:01	33:03	40:06	44:03	08:01	14:03	24	7	25.3	1	44.8	1
Se104	24:02	24:02	07:02	52:01	07:02	12:02	28	7	8.3	1	46.5	0
Se105	24:02	24:02	40:06	52:01	12:02	14:02	39	8	33.7	0	21.5	0
Se108	02:01	11:01	40:01	67:01	07:02	15:02	95	38	14.6	1	28.3	0
Se109	24:02	26:01	40:01	40:01	03:04	07:02	55	10	37.0	0	75.6	0
Se110	24:02	24:02	46:01	52:01	01:02	12:02	81	6	21.5	1	74.7	0
Se111	02:01	26:02	15:01	40:06	07:02	08:01	81	17	15.2	1	28.8	1
Se112	11:01	33:03	35:01	44:03	08:01	14:03	118	45	26.7	1	56.8	1
Se113	24:02	33:03	40:06	58:01	03:04	03:03	43	10	28.7	1	72	0
Se114	02:01	24:02	46:01	54:01	01:02	01:02	95	22	17.3	1	70.4	0
Se115	24:02	26:01	07:02	55:02	01:02	07:02	109	25	20.4	1	62.5	1
Se116	02:01	11:01	40:02	51:01	01:02	03:04	61	31	6.7	1	8.3	1
Se117	24:02	24:02	40:06	40:06	15:02	15:02	122	21	40.3	1	68.7	0
Se118	11:01	26:01	40:06	54:01	01:02	03:04	94	36	12.4	1	53	1
Se119	02:06	24:02	35:01	40:02	03:03	03:04	52	19	28.1	1	50.7	0
Se120	24:02	26:01	35:01	40:06	03:03	08:01	116	29	20.5	1	37	1
Se121	11:01	31:01	15:01	40:02	03:04	04:01	25	16	23.5	1	48.8	1
Se122	02:06	02:13	15:18	59:01	01:02	07:04	56	10	22.0	1	64.8	1
Se123	24:02	24:02	15:18	40:02	03:04	07:04	142	50	38.8	1	62.9	0
Se124	24:02	24:02	40:02	52:01	03:04	12:02	83	20	30.4	1	48.8	1
Se125	02:01	11:01	15:01	15:01	04:01	04:01	93	27	22.9	1	45.1	1
Se126	26:03	31:01	51:01	51:01	14:02	14:02	33	11	29.7	1	60.7	1
Se127	02:07	26:01	46:01	48:01	01:02	08:01	119	11	41.3	1	57	0
Se128	26:03	33:03	15:01	58:01	03:02	03:03	33	14	12.2	1	16.7	1
Se129	11:01	24:02	35:01	78:02	03:03	12:02	62	23	18.4	1	47.3	1
Se130	11:01	24:02	52:01	55:02	01:02	12:02	99	31	16.1	1	25.4	1
Se131	24:02	24:08	46:01	52:01	01:02	12:02	121	19	41.1	1	45.6	1
Se132	02:06	02:06	ND	03:04	08:22		286	74	20.1	1	54.4	0
Se133	02:06	33:03	15:18	51:01	08:01	14:02	44	15	16.5	1	22.6	1
Se134	24:02	31:01	40:01	44:03	03:03	14:03	92	35	13.7	1	50.4	0
Se135	24:02	24:02	52:01	52:01	12:02	12:02	148	22	27.3	1	45.5	0
Se136	11:01	24:02	40:01	67:01	03:04	07:02	41	12	8.2	1	21.3	1
Se137	11:01	26:01	35:01	54:01	ND		134	34	30.9	1	43.5	0
Se138	24:02	33:03	44:03	52:01	12:02	14:03	135	45	18.1	1	45.2	0
Se139	26:01	33:03	40:06	44:03	03:04	14:03	86	41	5.2	1	12.6	1
Se140	02:07	31:01	46:01	51:01	01:02	14:02	51	15	17.1	1	34.1	1
Se141	02:01	24:02	15:01	40:06	04:01	08:01	111	31	8.3	1	28.3	1
Se142	02:06	33:03	44:03	51:01	01:02	14:03	50	18	14.9	1	22.1	1
Se143	02:89	26:01	40:02	51:01	03:04	14:02	102	40	18.7	1	41.2	0
Se144	02:01	02:06	15:01	54:01	01:02	03:03	70	26	10.6	1	24.5	1
Se145	02:06	24:02	54:01	59:01	01:02	01:02	126	32	3.7	1	22.4	0
Se146	24:02	31:01	15:18	52:01	08:01	12:02	26	5	8.2	1	20.6	1
Se147	24:02	24:02	39:01	54:01	01:02	07:02	113	21	8.5	1	22.8	0
Se150	24:02	26:01	15:01	40:01	04:01	04:82	122	32	20.1	0	20.1	0
Se151	24:02	24:02	54:01	59:01	01:02	01:02	13	1	2.7	1	7.0	1
Se152	24:02	31:01	40:01	51:01	03:04	14:02	41	19	13.9	0	17.8	0

<sup>a</sup>Non-synonymous mutations include missense, insertion/deletion and non-stop mutations.

<sup>b</sup>The number of antigenic mutations potentially generating one or more neopeptides derived from non-synonymous mutations in genes with FPKM value  $\geq 1$ .  
ND, not determined